REMARKS

The present invention is a portable device which, in a preferred application, is a portable communications device. In accordance with an embodiment of the invention, a portable device 2 includes a housing 20 having a first surface 202 with an outlet 27 for egress of an acoustic signal when in a loudspeaker mode and a second surface 201 with an outlet 35 for egress of an acoustic signal when in an earpiece mode; and an electro-acoustic transducer 28 located within the housing for converting an electrical signal input into the transducer into an acoustic signal, the transducer being operable to output acoustic signals while in the loudspeaker mode or the earpiece mode, the audio path between the transducer and the outlet for the egress of an acoustic signal when in the loudspeaker mode being less attenuated than the audio path between the transducer and the outlet for the egress of an acoustic signal when in the earpiece mode. See paragraphs [0020] - [0021] of the Substitute Specification. Moreover, the present invention affords an advantage in that when the user places the earpiece outlet 25 to their ear while the device is in a loudspeaker mode, the output will be quieter than from the loudspeaker outlet in view of the aforementioned attenuation in the acoustic path between the transducer 28 and the outlet 25 used for the earpiece mode. See paragraph [0004] of the Substitute Specification.

The objection to claim 13 is noted. The subject matter of claim 13 has been cancelled and rewritten as new independent claim 19 which should be in condition for allowance.

Claims 1, 3, 5-7, 12, 15 and 17-18 stand rejected under 35 U.S.C. §102 as being anticipated by WO 97/47117 (Hawker et al). With respect to Hawker et al, the Examiner in the "Response to Arguments" states as follows:

> 2. The applicant argues that the prior art cited does not teach attenuation means regarding the two modes (ie. ear-piece and loudspeaker modes). The examiner disagrees since Hawker clearly discloses hands-free and handset modes which inherently requires two volumes (eg. one louder than the other) and hence attenuation of the signal(s) if/when changing between the two modes. The means by which Hawker performs this operation may differ from that of the applicant, but none-the-less reads on the claims.
>
> The examiner also notes that "attenuation" is a broad term and can be achieved in many ways, eg. via electronics, mechanical baffles, etc.. Hence, Hawker's ear-piece and loudspeaker modes have different "attenuation characteristics" applied so that one is louder than the other (see Hawker's claim #5). Hawker also teach foam as attenuation material (page 6, L10-13).
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> 3. The applicant argues that there is no attenuation of the signal. The examiner disagrees since Hawker teaches ear-piece and loudspeaker modes and therefore inherently adjusts/attenuates the signal for each mode. Hawker also teaches electronic equalization (page 6, L26-28) and an audio amplifier (page 6, L33).

These grounds of rejection are traversed for the following reasons.

Each of the independent claims 1 and 18 substantively recites respective audio paths between the transducer and the outlets for the egress of an acoustic signal when in the loudspeaker mode and for the egress of an acoustic signal when in the earpiece mode. Furthermore, the audio paths are recited as being attenuated such that the acoustic signal in the audio path between the transducer and the outlet in the loudspeaker mode is less attenuated than in the audio path between the transducer and the outlet when in the earpiece mode. This relationship, contrary to

what the Examiner has stated in the Response to Arguments is not taught by Hawker et al.

The Examiner is relying on two basic arguments. First, Hawker's disclosure of hands free and handset mode inherently requires attenuation of signals when changing between the two modes and further, that "attenuation" is a broad term and can be achieved in many ways.

As the Examiner is aware, the doctrine of inherency is only applicable when something must occur. The Examiner has not demonstrated that attenuation is inherent in the audio path in the teachings of Hawker. As set forth above, each of the claims specifically defines the place of the attenuation as the audio path between the transducer and the outlets. In this regard, the Examiner should note that the disclosure of the present application specifically defines two outlets 25 and 27 with the audio path from the transducer to the earpiece outlet 25 being designed so as to attenuate the audio output from the transducer sufficiently compared with the audio output which reaches the hands free outlet 27. See paragraph [0023] of the Substitute Specification.

The Examiner's argument that attenuation is a broad term which may be achieved in many ways, such as by electronics, is not a valid argument since the claims are structurally limited to the attenuation occurring in the audio path between the transducer and the earpiece outlet which is produced by the restriction in the open area of the aperture 30 and cannot be produced by electronics. See paragraph [0021] of the Substitute Specification.

Moreover, the Examiner's reference to attenuation material being disclosed at page 6, lines 10-13, in fact is a reference to acoustic foam in one or both

chambers 30 and 32 to provide frequency response, shaping and minimizing of the effects of resonances which are not properly described as attenuation in the acoustic paths between the transducer and the outlets. It is submitted that the use of foam is not attenuation as understood by a person of ordinary skill in the art in the audio paths of Hawker between the transducer which is element 20 and the outlets which respectively are ports 40, 42 and 44 on one hand and ports 46 on the other hand. These ports are not shown as being occluded in any fashion by the foam material adverted to in page 6, lines 10-13, for the claimed purpose of attenuation as contrasted with the above stated functions.

Additionally, it is clearly taught at the bottom of page 6 and the top of page 7, that the audio amplifier provides an increase in signal level to raise the level of audio sufficiently to allow the user to hear the calling party when holding the terminal well away from the ear. It is therefore seen that the adjustment of audio level is by applying a different degree of electrical gain to permit loudspeaker and earpiece modes. The electronics, including the amplifier, are not in the audio path between the transducer and the outlet. The amplifier cannot be argued to perform attenuation since the amplifier is an active device which enhances signal level in the electrical path between the amplifier and the transducer with attenuation being the opposite effect of reducing magnitude.

Furthermore, the use of foam would not be understood by a person of ordinary skill in the art to be in the audio path between the transducer 20 and the ports 40 in view of the disclosure at the bottom of page 4 and the top of page 5 that "[a]s shown, ports 40 are generally aligned with the opening 34 and partition 28 so as to provide a clear path for the sound waves from the transducer to the user's ear

(emphasis added)." This, of course, clearly teaches that there would be no reason to put foam in this path in view of the desirability of having a clear path. Moreover, as may be seen from Fig. 3, there is also a clear path between the transducer 20 and the back enclosure to the ports 46 since all that is contained therein is acoustic resistance material 50 which is provided for the stated purpose of response shaping and minimizing the effects of any resonances between the ports in the chambers as described at page 6, lines 5-8, which is a function similar to that performed by the acoustic foam also described on page 6.

Since the amplifier gain is clearly taught at the bottom of page 6 and the top of page 7 to be the only basis for increasing the volume level for hands free operation, there is no attenuation in the audio path between the transducer and the openings as recited regarding the outlets.

Dependent claims 3, 5, 6, 12, 15 and 17 define further more specific aspects of the present invention which are not rendered obvious by Hawker et al.

Claims 2, 8, 11 and 14 stand rejected under 35 U.S.C. §103 as being unpatentable over Hawker in view of United States Patent 5,379,338 (Umemoto et al). These grounds of rejection are traversed for the following reasons.

Umemoto et al have been cited for teaching a variable attenuator in column 18, lines 1-15. However, the Examiner has not demonstrated any motivation why a person of ordinary skill in the art would even consider utilizing a variable attenuator which, as disclosed, is not relevant to the controlling of attenuation in two audio paths between a single transducer and an outlet for the egress of acoustic signals respectively in loudspeaker mode and in earpiece mode. It is submitted that

the Examiner is engaging in an impermissible hindsight reconstruction of the prior art in suggesting the combination of Hawker and Umemoto et al.

Moreover, it is submitted that the reference to "a variable attenuator" does not suggest anything pertaining to a location in an acoustic path between a transducer and an outlet as recited in the claims and may be an electrical device which could not perform acoustic signal attenuation in an acoustical path.

Claims 4, 10 and 16 stand rejected under 35 U.S.C. §103 as being unpatentable over Hawker in view of United States Patent 5,493,690 (Shimazaki). This ground of rejection is traversed for the following reasons. The Examiner has cited Shimazaki as teaching a foldable portable telephone which uses a detection circuit to detect an open or close condition of a cover relative to a body. However, the Examiner has demonstrated no motivation why a person of ordinary skill in the art would be led to modify the teachings of Hawker to provide a two-piece housing with a detector to detect the position of one housing relative to another so the phone can anticipate whether or not to provide earpiece/hands free operation based on how the phone is positioned. The purpose of the detection circuit 27 is to detect the "on" state of the read switch 18 which provides an input to the control section 26. However, it is submitted that the combination of a detection circuit 27 in association with read switch 18 would not suggest the control of the gain of the amplifier to control the level of electrical signals as recited in claim 4 further in combination with the claimed acoustical attenuation except by impermissible hindsight. Claims 10 and 16 are further patentable for the same reasons set forth above with respect to claim 4.

Claim 9 stands rejected under 35 U.S.C. §103 as being unpatentable over Hawker et al in view of Umemoto as applied to claim 2 further in view of Shimazaki. The deficiency of Shimazaki relative to the subject matter of claim 9 as discussed above with respect to the rejection of claim 4 is relied upon herein for traversing the rejection of claim 9.

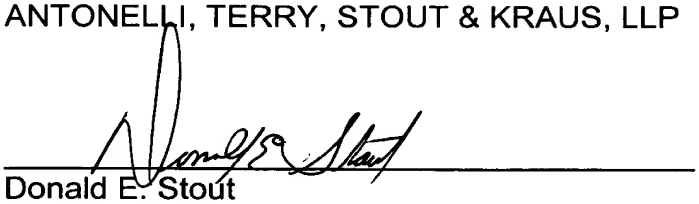
Allowance of newly submitted claim 28 in view of its status is being objected to by the Examiner is respectfully requested.

In view of the foregoing amendments and remarks, it is submitted that each of the claims in the application is in condition for allowance. Accordingly, early allowance thereof is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 C.F.R. §1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (1156.39104X00) and please credit any excess fees to such Deposit Account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP



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Attachments

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